

Little Rock School District

2012-13 Grade 3 Mathematics Curriculum Map

Common Core State Standards (CCSS)

Unit 3

Curriculum Overview

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
Aug 20-Sept 14 (19 days)	Sept 17 - Oct 12 (20 days)	Oct 17-Nov 20 (23 days)	Nov 26-Jan 11 (23 days)	Jan 14-Feb 8 (19 days)	Feb 11-Mar 15 (23 days)	Mar 25-Apr 5 (9 days)	Apr 8-June 5 (37 days)
Numbers and Operations in Base Ten	Operations and Algebraic Thinking: The Relationship between Multiplication and Division	Operations and Algebraic Thinking: The Properties of Multiplication and Division	Operations and Algebraic Thinking: Patterns in Addition and Multiplication	Geometry	Numbers and Operations- Fractions: Representing and Comparing Fractions	Measurement and Data	Gap Lessons for Fourth Grade
		SOAR Oct 17-18	SOAR Dec 12-13		SOAR Feb 27-28		ACTAAP April 8-12
<ul style="list-style-type: none"> ○ 3.NBT.1 ○ 3.NBT.2 ○ 3.NBT.3 ● 3.MD.3 ● 3.MD.4 	<ul style="list-style-type: none"> ★ 3.OA.1 ★ 3.OA.2 ★ 3.OA.3 ★ 3.OA.4 ● 3.MD.3 ● 3.MD.4 	<ul style="list-style-type: none"> ★ 3.OA.5 ★ 3.OA.6 ★ 3.OA.7 ● 3.MD.3 ● 3.MD.4 	<ul style="list-style-type: none"> ★ 3.OA.8 ★ 3.OA.9 ● 3.MD.4 ● 3.MD.5 ★ 3.MD.6 ★ 3.MD.7 	<ul style="list-style-type: none"> ● 3.G.1 ● 3.G.2 ● 3.MD.3 ● 3.MD.4 	<ul style="list-style-type: none"> ★ 3.NF.1 ★ 3.NF.2 ★ 3.NF.3 ● 3.MD.3 ● 3.MD.4 	<ul style="list-style-type: none"> ★ 3.MD.1 ★ 3.MD.2 ● 3.MD.3 ● 3.MD.4 ★ 3.MD.7 ○ 3.MD.8 	
Standards for Mathematical Practice should be included in <u>every unit</u> throughout the year.							
OA=Operations and Algebraic Thinking, NBT=Number and Operations in Base Ten, NF=Number and Operations, Fractions, G=Geometry, MD=Measurement and Data ★ Major Standard ● Supporting Standard ○ Additional Standard							

Oct 17-Nov 20 (23 days)	Unit 3: Understand properties of multiplication and the relationship between multiplication and division.	
	CONTENT STANDARDS	PRACTICE STANDARDS
DOMAIN – OPERATIONS AND ALGEBRAIC THINKING		
CLUSTER	<p>Represent and solve problems involving multiplication and division.</p> <p>3.OA.5 3.OA.6</p> <p>5. Apply properties of operations as strategies to multiply and divide. <i>Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property).</i></p> <p>6. Understand division as an unknown-factor problem. <i>For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.</i></p>	<p><i>Practice standards are embedded in every lesson throughout the curriculum, although not every practice will be found in every lesson. Numbers 1 and 6 should be evident in every lesson, and the other practices should be embedded as is appropriate to the lesson content and structure.</i></p> <ol style="list-style-type: none"> Make sense of problems and persevere in solving them. Reason abstractly and quantitatively Construct viable arguments and critique the reasoning of others Model with mathematics Use appropriate tools strategically Attend to precision Look for and make use of structure Look for and express regularity in repeated reasoning <p><u>Categorizing the Practice Standards</u></p> <p>Habits of Mind 1 and 6 Reasoning/Explaining 2 and 3 Modeling/Using Tools 4 and 5 Structure/Generalizing 7 and 8</p>
Oct 17-Nov 20 (23 days)	Unit 3	
DOMAIN – MEASUREMENT AND DATA		
CLUSTER	<p>Represent and interpret data</p> <p>3.MD.3 3.MD.4</p> <p>3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. <i>For example, draw a bar graph in which each square in the bar graph might represent 5 pets.</i></p> <p>4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units – whole numbers, halves, or quarters.</p>	

Oct 17-Nov 20 (23 days)	Unit 3:			
	Rationale	Instructional Strategies	Essential Questions	Misconceptions
WORKSHOP MODEL OF INSTRUCTION				
Warm Up	WORKTIME Lessons			CLOSURE
<p>Number Talks: http://lr3dgrademathmap2012-13.wikispaces.com/file/view/Number+Talks.pdf</p> <p>Thinking Devices: Search Teacher Tube and other teacher friendly sites for related videos.</p> <p>Quick Estimation List a series of numbers on the board and have students quickly try to find the answer using estimation. Ex. Find the answer to the nearest hundred $539 \times 682 \times 459 = 210,000,000$</p>	<p>Pre-Assessment</p> <ul style="list-style-type: none"> Students will NOT be introduced to algorithms until later grades. Embed the Identity Property and Zero Property into lessons. Embed graphing and measurement with rulers (whole numbers, halves and quarters) in problem solving. <p>Lesson 1: Teach distributive property beginning with multiples of three's. Harcourt Ch. 10 Lesson 1 p. 194 has <u>teacher</u> resources and <u>teacher</u> information related to teaching the distributive property. <i>Example: $3 \times 6 = (2 \times 6) + (1 \times 6)$. The idea is that students will use the information they have learned about 2's, 5's and 10's to solve the other multiplication facts.</i> Page 165 has problems for <u>students</u> using the multiples of 3. Students should build these problems using arrays.</p> <p>Lesson 2: Present a problem using multiples of 3. http://lr3dgrademathmap2012-13.wikispaces.com/file/view/3%27s.pdf</p> <p>Lesson 3: Work Stations (be sure to include multiples of 3 in your games).</p> <p>Lesson 4: Teach distributive property beginning with multiples of four. Harcourt Ch. 10 Lesson 1 p. 194 has <u>teacher</u> resources and <u>teacher</u> information related to teaching the distributive property. <i>The idea is that students will use the information they have learned about 2's, 5's and 10's to solve the other multiplication facts.</i> Page 179 # 6-14 has problems for <u>students</u> using the multiples of 4. Students should build these problems using arrays.</p> <p>Lesson 5: Present problem type using multiples of 4 http://lr3dgrademathmap2012-13.wikispaces.com/file/view/4%27s.pdf</p> <p>Lesson 6: Work Stations (be sure to include multiples of 4 in your games).</p> <p>Lesson 7: Teach distributive property beginning with multiples of six and seven. Harcourt Ch. 10 Lesson 1 p. 194 has <u>teacher</u> resources and <u>teacher</u> information related to teaching</p>			<p>Closure options</p> <ul style="list-style-type: none"> Gallery walk Student Discussion <p>Open-ended Questions/Talk Moves</p> <ul style="list-style-type: none"> Unit Question Bank Talk Moves <p>Journal Prompts</p> <ul style="list-style-type: none"> Unit Journal Prompt Suggestions <p>Exit Ticket Ideas</p> <ul style="list-style-type: none"> 'Say Why' Estimation task

Dot Cards
<http://lrsd3rdgrademathmap2012-13.wikispaces.com/file/view/Dot+Cards+8+Per+Page.pdf>

the distributive property. Page 201# 6-17 has problems for students using the multiples of 6 and 7. Students should build these problems using arrays.

Lesson 8: Present a problem from distributive property
<http://lrsd3rdgrademathmap2012-13.wikispaces.com/file/view/Distributive+Property+word+problems.pdf>

Lesson 9: Big Array, Small Array lesson.
<http://lrsd3rdgrademathmap2012-13.wikispaces.com/Unit+3+Operations+and+Algebraic+Thinking+-+Properties>

Lesson 10: Work Stations – If students do not finish their arrays they can use this day to complete; add arrays to your work stations.

Lesson 11: Teach distributive property beginning with multiples of **nine**.
TEACH Harcourt Ch. 11 Lesson 1 p. 212-213 using the distributive property. Example: $9 \times 7 = (10 \times 7) - (1 \times 7)$. Students should build these problems using arrays.

- Review 4 beginning with 5 and using the subtract 1 method; like you did with 9 is $10 - 1$. Example: $4 \times 7 = (5 \times 7) - (1 \times 7)$.

Lesson 12: Present a problem using multiples of 9.
<http://lrsd3rdgrademathmap2012-13.wikispaces.com/file/view/9%27s.pdf>

Lesson 13: Work Stations (make sure you add nine's to your games).

Lesson 14: Teach distributive property beginning with multiples of **eight**. Encourage students to use information previously learned in relationship to 8. (subtract from ten or add up from five, six, seven, etc.). Are they transferring and applying prior knowledge to problem-solve? Refer to Harcourt Lesson 10.1, if needed.

Lesson 15: Present a problem using multiples of 8.
<http://lrsd3rdgrademathmap2012-13.wikispaces.com/file/view/8%27s.pdf>

Lesson 16: Assessment: Harcourt Ch. 10 review, p. 207. Students use distributive property to solve each equation. Students should be allowed to continue using arrays for the assessment, if needed.

Lesson 17: Harcourt Ch. 11 Lesson 3 p. 218. Associative property: Revisit multiples of 4, 6 and 8. Ask students "How can I use the associative property to solve these problems?" Encourage students to use array cards to model the associative property.

Lesson 18: Present a problem using distributive property.
<http://lrsd3rdgrademathmap2012-13.wikispaces.com/file/view/Distributive+Property+word+problems.pdf>

Lesson 19: Harcourt Ch. 11 Lesson 4 p. 220 – 221.

OTHER RESOURCES

ASSESSMENT

Formative Assessment

- Harcourt Performance Assessment Book Tabletop Tiles Directions PA73 Task PA75 Rubric PA74

Summative Assessment

- Harcourt Performance Assessment Book Shell Art Directions PA73 Task PA76 Rubric PA74

INTERVENTIONS

- Continue with review lessons from Unit 2
- Continue with number bonds
- Continue with open number sentences

HOMEWORK IDEAS

- Harcourt Problem Solving Book PS48
- Harcourt Problem Solving Book PS52
- Harcourt Problem Solving Book PS53
- Harcourt Reteach Book RW54
- Problem Solving Pages
<http://lrsd3rdgrademathmap2012-13.wikispaces.com/file/view/Unit+3+Homework.doc>